(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 8 July 2004 (08.07.2004)

PCT

(10) International Publication Number WO 2004/057717 A1

(51) International Patent Classification⁷: H05K 7/14 // 005/02, 007/18

H02G 3/04,

(21) International Application Number:

PCT/SE2002/002427

(22) International Filing Date:

19 December 2002 (19.12.2002)

(25) Filing Language:

English

(26) Publication Language:

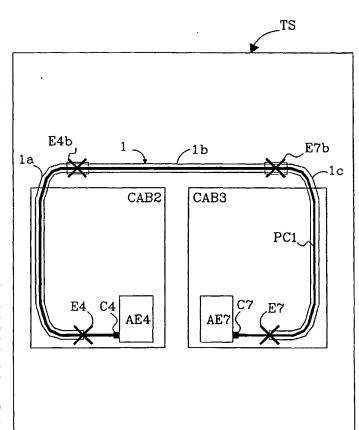
English

- (71) Applicant (for all designated States except US): TELE-FONAKTIEBOLAGET LM ERICSSON (publ) [SE/SE]; S-164 83 Stockholm (SE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): SERRANDER, Hans, Roland [SE/SE]; Skånegatan 107, 3 tr, S-116 35 Stockholm (SE). LOCURZIO, Peter [SE/SE]; Brunnsgatan 1, S-824 52 Hudiksvall (SE).

- (74) Agent: ERICSSON AB; Patent Unit Core Networks, Telefonplan/Älvsjö, S-126 25 Stockholm (SE).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: FLEXIBLE OPTICAL CABLING



(57) Abstract: The present invention relates to an arrangement and a method for flexible installation of an optical patch cable PC1 in a telecommunication station TS between equipment AE4, AE7 in the station. The arrangement comprises a micro duct 1 for guidance of the patch cable. The duct have duct end openings E4, E7 related to the equipment.



Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 02/02427

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H02G 3/04, H05K 7/14 // H05K 005/02, H05K 007/18 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H05K, H02G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA

C.	DOCUMENTS	CONSIDERED	10 RF	RELEVANT
----	-----------	------------	-------	----------

Further documents are listed in the continuation of Box C.

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
×	US 5067678 A (ROY L. HENNEBERGER ET AL), 26 November 1991 (26.11.91), column 1, line 40 - line 58	r1-6
х	US 4937400 A (JAMES W. WILLIAMS), 26 June 1990 (26.06.90), abstract	1-6
	- -	
A	US 5358011 A (DAVID J. STOCKTON ET AL), 25 October 1994 (25.10.94), abstract	1-6
		
A	US 6388891 B1 (DEAN R. FALKENBERG ET AL), 14 May 2002 (14.05.02), column 1, line 50 - column 2, line 30	1-6
	 -	

+	Special categories of cited documents:	~T.	later document published after the international filing date or priority
A	document defining the general state of the art which is not considered to be of particular relevance		date and not in conflict with the application but cited to understand the principle or theory underlying the invention
~E*	earlier application or patent but published on or after the international filing date	*X*	document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other		step when the document is taken alone
	special reason (as specified)	"Y"	document of particular relevance: the claimed invention cannot be
0	document referring to an oral disclosure, use, exhibition or other means		considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
P	document published prior to the international filing date but later than	"&"	document member of the same patent family
	the priority date claimed		document interior of the same patent farmy
Dat	e of the actual completion of the international search	Date of	of mailing of the international search report
			0 4 - 07- 2003
4	June 2003		
Nan	ne and mailing address of the ISA/	Autho	rized officer
Swe	edish Patent Office		
Box	5055, S-102 42 STOCKHOLM	Sara	a Thulin/MN
Fac	simile No. +46 8 666 02 86	Teleph	none No. +46 8 782 25 00

X See patent family annex.

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 02/02427

Category*	Citation of document, with	h indication, where appropriate, of the rele	evant passages	Relevant	to claim N	lo
A	US 5774617 A (ANT 30 June 1998	THONY JOHN STOCKMAN ET AL), (30.06.98), see whole docume	ent .	1-6		•
		·				
					•	
	**	1 ***				
					•	
	•					
					•	
					•	•
	·					
	A/210 (continuation of second					

INTERNATIONAL SEARCH REPORT Information on patent family members

29/04/03

International application No.

PCT/SE 02/02427

	t document search report		Publication date		tent family member(s)	Publication date
US	5067678	A	26/11/91	US	5316243 A	31/05/94
US	4937400	A	26/06/90	NONE		
US	5358011	Α	25/10/94	AT	99088 T	15/01/94
•		• •	,	AU	634166 B	18/02/93
	•			AU	3973689 A	05/02/90
				CA	1328085 A	29/03/94
				DE	68911689 D,T	07/04/94
				DK	1191 A	04/01/91
				DK	171520 B	16/12/96
				EP	0432171 A,B	19/06/91
				SE	0432171 T3	
				GB	2241121 A,B	21/08/91
				GB	8815977 D	00/00/00
				GB	9028198 D	00/00/00
			•	HK	121196 A	19/07/96 ·
٠.,			•	IE	64479 B	09/08/95
				ĨĒ	892164 L	05/01/90
•				ĴP	3061390 B	10/07/00
				JP	3505791 T	12/12/91
				NZ	229827 A	25/10/91
				WO	9000823 A	25/01/90
				ËP	0378904 A	25/07/90
				GB	2226991 A	18/07/90
				GB	8900780 D	00/00/00
•				JP	1891964 C	07/12/94
				JP	2265932 A	30/10/90
	•		• •	JP	6013617 B	23/02/94
	•		•	ÜS	4960491 A	02/10/90
US	6388891	B1	14/05/02	NONE		
US	5774617		30/06/98	AU	683259 B	06/11/97
UJ	3//401/	^	30, 40, 20	AU	6681994 A	21/11/94
	•			CA	2161415 A	10/11/94
				DE	69430995 D,T	20/03/03
				EP	0734538 A,B	02/10/96
				SE	0734538 T3	
				GB	2292020 A,B	07/02/96
				GB	9308689 D	00/00/00
				GB	9521975 D	00/00/00
				JP	9504116 T	22/04/97
				WO	9425886 A	10/11/94
				GB	9400938 D	00/00/00
			11.0.	• •		
		ă.	11.0			